

Claims

What is claimed is:

1. A method of controlling an engine having a valve actuator, comprising:
 - sensing a first parameter indicative of a first temperature of the engine;
 - sensing a second parameter indicative of a second temperature of the engine; and
 - disabling the valve actuator to prevent the implementation of a variation on conventional engine valve actuation timing in response to each of the first and second temperatures being below a predetermined value.
2. The method of claim 1, further including enabling the valve actuator to allow the implementation of a variation on conventional engine valve actuation timing in response to each of the first and second temperatures being above a predetermined value.
3. The method of claim 1, wherein the first temperature is an engine coolant temperature and the second temperature is an intake manifold temperature.
4. The method of claim 3, further including enabling the valve actuator when the engine coolant temperature is above the predetermined value.
5. The method of claim 3, further including disabling the valve actuator when the engine coolant temperature is below the predetermined value and the intake manifold temperature is above the predetermined value.

6. The method of claim 1, wherein the predetermined value is 20° C.

7. The method of claim 1, further including closing a control valve to enable the valve actuator.

8. The method of claim 1, further including monitoring the operation of the valve actuator to detect proper operation of the valve actuator.

9. The method of claim 8, further including limiting an amount of fuel injected into a cylinder of the engine and an amount of torque generated by the engine when the valve actuator is not operating properly.

10. The method of claim 1, further including limiting an amount of fuel injected into a cylinder of the engine when one of the first and second temperatures are below the predetermined value.

11. The method of claim 1, further including limiting an amount of torque generated by the engine when one of the first and second temperatures are below the predetermined value.

12. A valve actuation system for an engine having an intake valve moveable between a first position where the intake valve prevents a flow of fluid and a second position where the intake valve allows a flow of fluid, comprising:

a valve actuator adapted to selectively engage the intake valve to prevent the intake valve from returning to the first position;

a first sensor adapted to sense a first parameter indicative of a first temperature of the engine;

a second sensor adapted to sense a second parameter indicative of a second temperature of the engine; and

a controller adapted to disable the valve actuator to prevent the valve actuator from engaging the intake valve when each of the first and second temperatures are below a predetermined value.

13. The system of claim 12, wherein the controller is adapted to enable the valve actuator to allow the valve actuator to engage the intake valve when each of the first and second temperatures are above a predetermined value.

14. The system of claim 12, wherein the first sensor is adapted to sense a temperature indicative of the temperature of an engine coolant and the second sensor is adapted to sense a temperature indicative of the temperature of an intake manifold.

15. The system of claim 14, wherein the controller is adapted to enable the valve actuator when the engine coolant temperature is above the predetermined value and adapted to disable the valve actuator when the engine coolant temperature is below the predetermined value and the intake manifold temperature is above the predetermined value.

16. The system of claim 12, further including a control valve moveable between a first position where the valve actuator is enabled and a second position where the valve actuator is disabled.

17. The system of claim 12, further including a detection system adapted to determine whether the valve actuator is operating properly.

18. An engine system, comprising,
an engine block defining a cylinder;
a piston slidably disposed within the cylinder, the piston moveable between a top dead center position and a bottom dead center position;
an intake valve operatively associated with the cylinder and moveable between a first position where the intake valve prevents fluid from

flowing relative to the cylinder and a second position where a flow of fluid is allowed to flow relative to the cylinder;

a valve actuator adapted to selectively engage the intake valve to prevent the intake valve from returning to the first position;

a first sensor adapted to sense a first parameter indicative of a first temperature of the engine;

a second sensor adapted to sense a second parameter indicative of a second temperature of the engine; and

a controller adapted to disable the valve actuator to prevent the valve actuator from engaging the intake valve when each of the first and second temperatures are below a predetermined value and adapted to enable the valve actuator to allow the valve actuator to engage the intake valve when each of the first and second temperatures are above a predetermined value.

19. The engine system of claim 18, wherein the first sensor is adapted to sense a temperature indicative of the temperature of an engine coolant and the second sensor is adapted to sense a temperature indicative of the temperature of an intake manifold.

20. The engine system of claim 19, wherein the controller is adapted to enable the valve actuator when the engine coolant temperature is above the predetermined value and adapted to disable the valve actuator when the engine coolant temperature is below the predetermined value and the intake manifold temperature is above the predetermined value.

21. The engine system of claim 18, further including a control valve moveable between a first position where the valve actuator is enabled and a second position where the valve actuator is disabled.

22. The engine system of claim 18, further including a detection system adapted to determine whether the valve actuator is operating properly.

23. The engine system of claim 18, further including a cam assembly connected to the intake valve and adapted to move the intake valve between the first and second positions.

24. The engine system of claim 18, further including a fuel injection system adapted to inject a quantity of fuel into the cylinder and wherein the controller is adapted to limit the quantity of fuel injected into the cylinder when one of the first and second temperatures are below the predetermined value.

25. A valve actuation system for an engine having an intake valve moveable between a first position where the intake valve prevents a flow of fluid and a second position where the intake valve allows a flow of fluid, comprising:

a valve actuator adapted to selectively engage the intake valve to prevent the intake valve from returning to the first position;

a first sensor adapted to sense a first parameter indicative of a first temperature of the engine and to deliver a first signal including a representation of the first temperature;

a second sensor adapted to sense a second parameter indicative of a second temperature of the engine and to deliver a second signal including a representation of the second temperature; and

a controller adapted to receive the first and second signals and to disable the valve actuator to prevent the valve actuator from engaging the intake valve when each of the first and second temperatures are below a predetermined value.

26. The system of claim 25, wherein the controller is adapted to enable the valve actuator to allow the valve actuator to engage the intake valve when each of the first and second temperatures are above a predetermined value.

27. The system of claim 25, wherein the first sensor is adapted to sense a temperature indicative of the temperature of an engine coolant and the second sensor is adapted to sense a temperature indicative of the temperature of an intake manifold.

28. The system of claim 27, wherein the controller is adapted to enable the valve actuator when the engine coolant temperature is above the predetermined value and adapted to disable the valve actuator when the engine coolant temperature is below the predetermined value and the intake manifold temperature is above the predetermined value.

29. The system of claim 25, further including a control valve moveable between a first position where the valve actuator is enabled and a second position where the valve actuator is disabled.

30. The system of claim 25, further including a detection system adapted to determine whether the valve actuator is operating properly.